

# Types of Contraceptives and Risk for Blood Clot Development

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## Background

Oral contraceptives are the most commonly used birth control method for women under 30<sup>1</sup> Studies have shown an increased risk of venous thromboembolisms, commonly referred to as blood clots, with the use of combined oral contraceptives in comparison to progestin-only forms<sup>2-4</sup>

## PICOT Question

For women aged 20-35, does the use of oral contraceptives increase the risk of blood clot development compared to other forms of contraception over a period of 5 years?

## Literature Search

We screened 16 journal articles and retained 13 articles based on the quality evaluation rubric and this is the criteria that we used:

- **Databases:** Academic Search Complete, PubMed, CINAHL
- **Keywords:** combined oral contraceptive, hormonal contraceptive, thromboembolism, progestin
- **Article Criteria:** Peer-reviewed journals published between 2015 to 2020.

## Synthesis of Findings

- Combined oral contraceptives (COCs) increase the risk of venous thromboembolisms (VTE) by 247%<sup>2,3,5-9</sup>
- Progestin-only releasing intrauterine devices have a decreased VTE risk with an odds ratio of 0.6 compared to 0.7-1.5 for nonusers.<sup>2,10,11</sup>
- Estrogen dose and progestin type in COCs can increase VTE risk by 20% and 30%, respectively<sup>2,3,8</sup>
- VTEs have the highest risk in developing in the first 12 months of initiating therapy with COCs, especially in women under age 30, compared to use of 5 years or greater<sup>2,4,8,12</sup>
- Drug routes for combined hormonal contraceptives do not impact risk of developing VTEs<sup>3,4</sup>
- Risk factors such as age over 35, obesity, smoking, and family history of VTE are considered when prescribing<sup>2,8,12,13,14</sup>

## Decision to Change Practice

### Implement the VTE Prevention Program

- Present relative and absolute risks of VTE, as risk is increased with use, but overall occurrence is low and advantages may outweigh risks<sup>15</sup>
- Encourage smoking cessation.
- Provide weight management education for women with a BMI > 30.
- Consult with the provider for alternative contraception options for women over 35.
- Encourage women under 30 to be vigilant for signs of VTE during their first year of use.
- Notify the provider if the following signs and symptoms of complications occur:
  - Deep vein thrombosis: unilateral calf swelling, leg pain, leg warmth and redness<sup>16</sup>
  - Pulmonary embolism: shortness of breath, chest pain, blood-tinged cough<sup>16</sup>



[Types of contraceptives] Getty Images. Retrieved July 23, 2020 from: <https://www.wired.com/2016/10/smarter-way-compare-birth-control-methods/>

## Evaluation

Through education and encouragement on modifying risk factors, women who have begun contraceptives will experience decreased complications of VTE in the first year of use.

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